

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claim 22-42 have been considered but are moot in view of the new ground(s) of rejection.
2. Acknowledgement is given to previously cancelled claims 1-21 and newly added claims 22-45.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims **22-29** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Heyde** (5,042,293) in view of **Ellison et al.** (2009/0269836). (**'Ellison'**)

As to claim 22, Heyde discloses a sample vessel (sample pump **42**) (Column 8, lines 4-6 and Fig. 2); a pump (pump **48**) (Column 8, lines 56-59 and Fig. 2); wherein said measurement cell (solution sampler **70**) is connected to the pump **48**, which can vary the flow rate (in conduits **62** and **64**), and to the sample vessel **42** by a pipe (Column 10, lines 17-21 and Figs. 2 and 7)

Heyde fails to disclose a measurement cell together with a spectroscopic measurement head which carries out a nondestructive spectroscopic measurement of a sample of the pumpable material by light absorption and/or light transmission; and

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wherein said spectroscopic measurement head and the regulatable pump having-have electrical connections to a controlling and evaluating unit.

However, **Ellison** teaches a measurement cell together with a spectroscopic measurement head which carries out a nondestructive spectroscopic measurement of a sample of the pumpable material by light absorption and/or light transmission (Page 8, Paragraph 136-138); and wherein said spectroscopic measurement head and the regulatable pump having-have electrical connections to a controlling and evaluating unit (Page 6, Paragraph 121 and Figs.4 and 6).

It would have been obvious to one skilled in the art at the time of the invention to include the measurement cell of **Ellison** in the determination arrangement of **Heyde** in order to provide a suitable component for capturing data and outputting the detected signal into a processing device so that desired parameters and characteristics of the sample under test will be able to be determined and compared to stored data.

As to claim 23, Heyde in view of **Ellison** discloses all of the claimed limitations as applied to Claim 22 above, **in addition Heyde** discloses wherein the measurement cell **70** is constructed in such a way that the sample flows (in conduits **62** and **64**) between two oppositely located windows which are integrated in the measurement cell perpendicular to the direction of flow (Fig. 2).

As to claim 24, Heyde in view of **Ellison** discloses all of the claimed limitations as applied to Claim 22 above, **in addition Heyde** discloses wherein a multi-port valve

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(designated **Y** and **Z**) is arranged in the pipe to produce connections to a water vessel and/or cleaning liquid vessel (Column 8, lines 38-48 and Fig. 7).

As to claim 25, Heyde in view of **Ellison** discloses all of the claimed limitations as applied to Claim 22 above, **except for** wherein the multi-port valve arranged in the pipe can produce connections to one or more vessels with test liquids for self-calibration.

However, **Ellison** teaches wherein the multi-port valve arranged in the pipe can produce connections to one or more vessels **602** with test liquids for self-calibration (Page 8, paragraph 140).

It would have been obvious to one skilled in the art at the time of the invention to include the calibration technique of **Ellison** in the determination arrangement of **Heyde** in order to adjust parameters within her system based on receives output data from the measurement device, allowing comparison techniques to take place when.

As to claim 26, Heyde in view of **Ellison** discloses all of the claimed limitations as applied to Claim 22 above, **in addition Heyde** discloses wherein the multi-port valve (designated **Y** and **Z**) has an actuating drive (valves **V1-V3**) which is connected to the controlling and evaluating unit (computer **72**) (Column 10, lines 17-25 and Fig. 5 and 7).

As to claim 27, Heyde in view of **Ellison** discloses all of the claimed limitations as applied to Claim 22 above, **except for** wherein a device is provided for drying the measurement cell and is connected to the controlling and evaluating unit.

However, **Ellison** teaches wherein a device (drying tube **605**) is provided for drying the measurement cell and is connected to the controlling and evaluating unit (Page 6, paragraph 115 and Fig. 6).

It would have been obvious to one skilled in the art at the time of the invention to include the drying technique of **Ellison** in the determination arrangement of **Heyde** in order to make sure no solution, that is not apart of the sample under measurement is left in the area designated for the sample to flow in; improving the accuracy of the detected data.

As to claim 28, Heyde in view of **Ellison** discloses all of the claimed limitations as applied to Claim 22 above, **except for** wherein a device is provided for regulating the temperature of the sample and is connected to the controlling and evaluating unit.

However, **Ellison** teaches wherein a device (temperature control device **46B**) is provided for regulating the temperature of the sample and is connected to the controlling and evaluating unit (Page 5, paragraph 103 and Fig. 4).

It would have been obvious to one skilled in the art at the time of the invention to include the device of **Ellison** in the determination arrangement of **Heyde** in order to make sure that the temperature of the sample is within a desired range so that overheating or damage due to uncontrolled temperature fluctuations beyond a desired threshold is avoided.

As to claim 29, Heyde in view of **Ellison** discloses all of the claimed limitations as applied to Claim 22 above, **except for** wherein the arrangement is connected to the outlet line of a vessel arranged on a vehicle by two three-way directional valves.

However, **Ellison** teaches wherein the arrangement is connected to the outlet line of a vessel **602** arranged on a vehicle by two three-way directional valves (Page 5, paragraph 114 and Fig. 6).

It would have been obvious to one skilled in the art at the time of the invention to include the outlet valve of **Ellison** in the determination arrangement of **Heyde** in order to have control of the amount of unwanted outputted sample being discarded from the area where the measurement is taking place, making sure that the remaining amount of sample is known.

Allowable Subject Matter

5. Claims **30-45** are allowed.
6. The following is an examiner's statement of reasons for allowance:

As to claim 30, the prior art of record, taken alone or in combination, fails to disclose or render obvious wherein the controlling and evaluating unit determines components and concentrations of substances contained in the sample, and regulates the through-flow of the outlet valve based on the determined components and concentrations of the substances contained in the sample as clearly shown, in combination with the rest of the limitations of the claim.

As to claim 31, the prior art of record, taken alone or in combination, fails to disclose or render obvious conveying the measurement results for further processing to a controlling and evaluating unit which determines components and concentrations of substances contained in the sample based on stored specific calibrations as clearly shown, in combination with the rest of the limitations of the claim.

And as to claim 40, the prior art of record, taken alone or in combination, fails to disclose or render obvious wherein a control signal is generated by the controlling and evaluating unit based on the determined components and concentrations of substances contained in the sample, and is used to regulate the flow through an outlet valve of the outlet line of the vessel as clearly shown, in combination with the rest of the limitations of the claim.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Reference **5,042,293** discloses a determination of the concentration of a particular ion in a liquid at concentration levels on the order of, typically, one-thousandth the concentration of the same ion in a standard solution.

However, it fails to disclose the limitations cited above in claim 30 in reference to the controlling and evaluating units above.

Reference **5,042,293** discloses a determination of the concentration of a particular ion in a liquid at concentration levels on the order of, typically, one-thousandth the concentration of the same ion in a standard solution.

However, it fails to disclose the limitations cited above in claim 31 in reference to the controlling and evaluating units above.

Reference **5,042,293** discloses a determination of the concentration of a particular ion in a liquid at concentration levels on the order of, typically, one-thousandth the concentration of the same ion in a standard solution.

However, it fails to disclose the limitations cited above in claim 40 in reference to the controlling and evaluating units above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to IYABO S. ALLI whose telephone number is (571)270-1331. The examiner can normally be reached on M-Thurs. 7:30a- 5pm, 1st F-OFF & 2nd F- 7:30a-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Toatley can be reached on 571-272-2059. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

IYABO S. ALLI
Examiner
Art Unit 2877

/Gregory J. Toatley, Jr./
Supervisory Patent Examiner,
Art Unit 2877
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